



UNITED STATES PATENT AND TRADEMARK OFFICE

W
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/597,057 | 12/11/2006 | Manfred Heidemann | 72279 | 5355 |
| 23872 | 7590 | 10/23/2007 | EXAMINER | |
| MCGLEW & TUTTLE, PC P.O. BOX 9227 SCARBOROUGH STATION SCARBOROUGH, NY 10510-9227 | | | FERGUSON, MICHAEL P | |
| ART UNIT | | PAPER NUMBER | | |
| 3679 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 10/23/2007 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/597,057 | HEIDEMANN ET AL. |
| | Examiner | Art Unit |
| | Michael P. Ferguson | 3679 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on _____.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-19 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 1-19 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 10 July 2006 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 07/10/06.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application
 6) Other: _____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: BALL AND SOCKET JOINT FOR USE IN VEHICLES.

Claim Objections

2. Claims 1, 12, 14 and 18 are objected to because of the following informalities:

Claim 1 (line 6) recites "pivot and". It should recite --pivot; and--.

Claim 1 (lines 11-12) recites "in the installed state". It should recite --in an installed state--.

Claim 12 (line 1) recites "with claim 1". It should recite --with claim 2--.

Claim 14 (lines 12-13) recites "in the installed state". It should recite --in an installed state--.

Claim 18 (line 2) recites "said ring". It should recite --said support ring--.

For the purpose of examining the application, it is assumed that appropriate correction has been made.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 3679

4. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 (lines 2-4) recites "wherein said profiled body is positioned on said adjoining component as a result of a radial expansion of said profiled body by positive-locking connection or non-positive connection with said adjoining component". It is unclear as to how the position of the profiled body relative to the adjoining component is a result of the connection of the profiled body with the adjoining component. Such limitations appear to infer that that the connection of the two members is a result of the connection itself between the two members; it is unclear as to what structural relationship Applicants intended to recite using such cause-effect relationship between the members.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

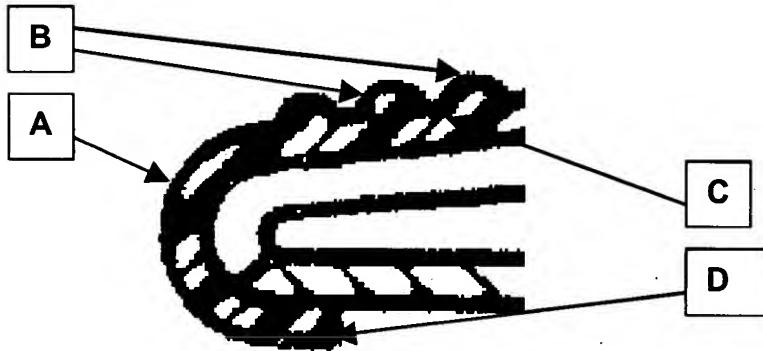
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Musashi Seimitsu (JP 402199317).

As to claim 1, Musashi Seimitsu discloses a ball and socket joint, comprising:
a ball and socket joint housing 6 having a joint opening;

a ball pivot 4, which is arranged in the ball and socket joint housing, extends through the joint opening and with which a shaft 25 is made integral; a support ring 13 arranged on the shaft of the ball pivot; and a sealing element 27, which is arranged between the support ring and a connection component 18 surrounding the shaft of the ball pivot, wherein the sealing element comprises an elastically and/or plastically deformable profiled body 27 having an effective cross section, which is free from the effect of forces, that is limited by a continuously extending, curved contour, which is subject to deformation in an installed state, as a result of which at least a partial area of the contour is in contact with adjoining areas that are to be sealed (Figures 1, 3 and 5, abstract).

As to claim 2, Musashi Seimitsu discloses a ball and socket joint wherein the elastically and/or plastically deformable profiled body 27 has a profiled basic body A and sealing segments B (Figure 5 reprinted below with annotations).



As to claim 3, Musashi Seimitsu discloses a ball and socket joint wherein the sealing segments B extend radially oriented in relation to the profiled basic body A (sealing segments B are radially oriented along a radial length of profiled basic body A; Figure 3).

As to claim 4, Musashi Seimitsu discloses a ball and socket joint wherein transition areas **C** are provided for connecting the profiled basic body **A** to the sealing segments **B** (Figure 3).

As to claim 5, Musashi Seimitsu discloses a ball and socket joint wherein a material or a material combination that permits elastic deflection of the sealing segments **B** adjoining the transition area **C** is selected for the transition area (Figure .

As to claim 6, Musashi Seimitsu discloses a ball and socket joint wherein the profiled body **27** has a connection surface, via which the profiled body is connected to an adjoining component **13** (Figure 3).

As to claim 7, Musashi Seimitsu discloses a ball and socket joint wherein the adjoining component is the support ring **15** (Figure 3).

As to claim 8, Musashi Seimitsu discloses a ball and socket joint wherein the connection between the profiled body **27** and the adjoining component **15** is established by vulcanization or bonding (sealing element **27** is bonded to support ring **15**; Figure 5).

As to claim 9, Musashi Seimitsu discloses a ball and socket joint wherein the profiled body **27** is positioned on the ball pivot or the support ring **15** in preparation for the mounting of the ball and socket joint (Figure 5).

As to claim 10, Musashi Seimitsu discloses a ball and socket joint wherein the profiled body **27** is positioned on the adjoining component **15** by means of a radial expansion of the profiled body by positive-locking connection or non-positive connection with the adjoining component (sealing element **27** is radially expanded and extended

along the surface of support ring 15 in order to connect the sealing element to the support ring; Figure 5).

As to claim 11, Musashi Seimitsu discloses a ball and socket joint wherein the support ring 15 has a radially extending flange 28, with which at least one the sealing segment **B** of the profiled body 27 is in contact under pretension (Figure 3).

As to claim 12, Musashi Seimitsu discloses a ball and socket joint wherein the support ring 15 has a radially extending flange 28, with a radially outer front surface of which at least one the sealing segment **B** of the profiled body 27 is in contact under pretension (Figure 3).

As to claim 13, Musashi Seimitsu discloses a ball and socket joint wherein the profiled body 27 has at least one stabilizing element **D** (Figure 5).

As to claim 14, Musashi Seimitsu discloses a motor vehicles chassis ball and socket joint comprising:

a ball and socket joint housing 6 having a joint opening;

a ball pivot 4 comprising a ball portion arranged in the ball and socket joint housing and an integral shaft portion 25 arranged outside of the ball and socket joint housing, the shaft portion having an area to be sealed;

a support ring 13 on the shaft portion, the support ring having an area to be sealed;

a connection component 18 surrounding the shaft portion, the connection component having an area to be sealed;

a sealing element 27 arranged between the support ring and the connection component, the sealing element comprising an elastically and/or plastically deformable profiled body having an effective cross section in a state not affected by compressive or tensile forces, the effective cross section having a continuously extending curved contour subject to deformation in an installed state, the sealing element having at least a partial area of the contour in contact with the area to be sealed of the support ring, the area to be sealed of the shaft portion and the area to be sealed of the connection component (Figures 1, 3 and 5, abstract).

As to claim 15, Musashi Seimitsu discloses a ball and socket joint wherein the elastically and/or plastically deformable profiled body has a profiled basic body **A** and sealing segments **B** extending radially in relation to the profiled basic body (sealing segments **B** are radially oriented along a radial length of profiled basic body **A**; Figure 3).

As to claim 16, Musashi Seimitsu discloses a ball and socket joint wherein the profiled body 27 includes transition areas **C** connecting the profiled basic body **A** to the sealing segments **B** (Figure 5).

As to claim 17, Musashi Seimitsu discloses a ball and socket joint wherein the contact between the profiled body 27 and one of the areas to be sealed comprises a connection established by vulcanization or bonding (sealing element 27 is bonded to support ring 13; Figure 3).

As to claim 18, Musashi Seimitsu discloses a ball and socket joint wherein the support ring 13 has a radially extending flange 28 having the area to be sealed of the

support ring, the radially extending flange being in contact with the profiled body **27** under pretension or compression (Figure 3).

As to claim 19, Musashi Seimitsu discloses a ball and socket joint wherein the profiled body **27** has at least one stabilizing element **D** (Figure 5).

Conclusion

The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure. The following patents show the state of the art with respect to ball and socket joints:

Suzuki et al. (US 6,814,521), Abels et al. (US 7,070,355) and Kogstrom (US 2,921,809) are cited for pertaining to ball and socket joints comprising a housing, a ball pivot, a support ring and a sealing element.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Ferguson whose telephone number is (571)272-7081. The examiner can normally be reached on M-F (6:30am-3:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571)272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MPF
10/16/07



DANIEL P. STODOLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

REPLACEMENT SHEET

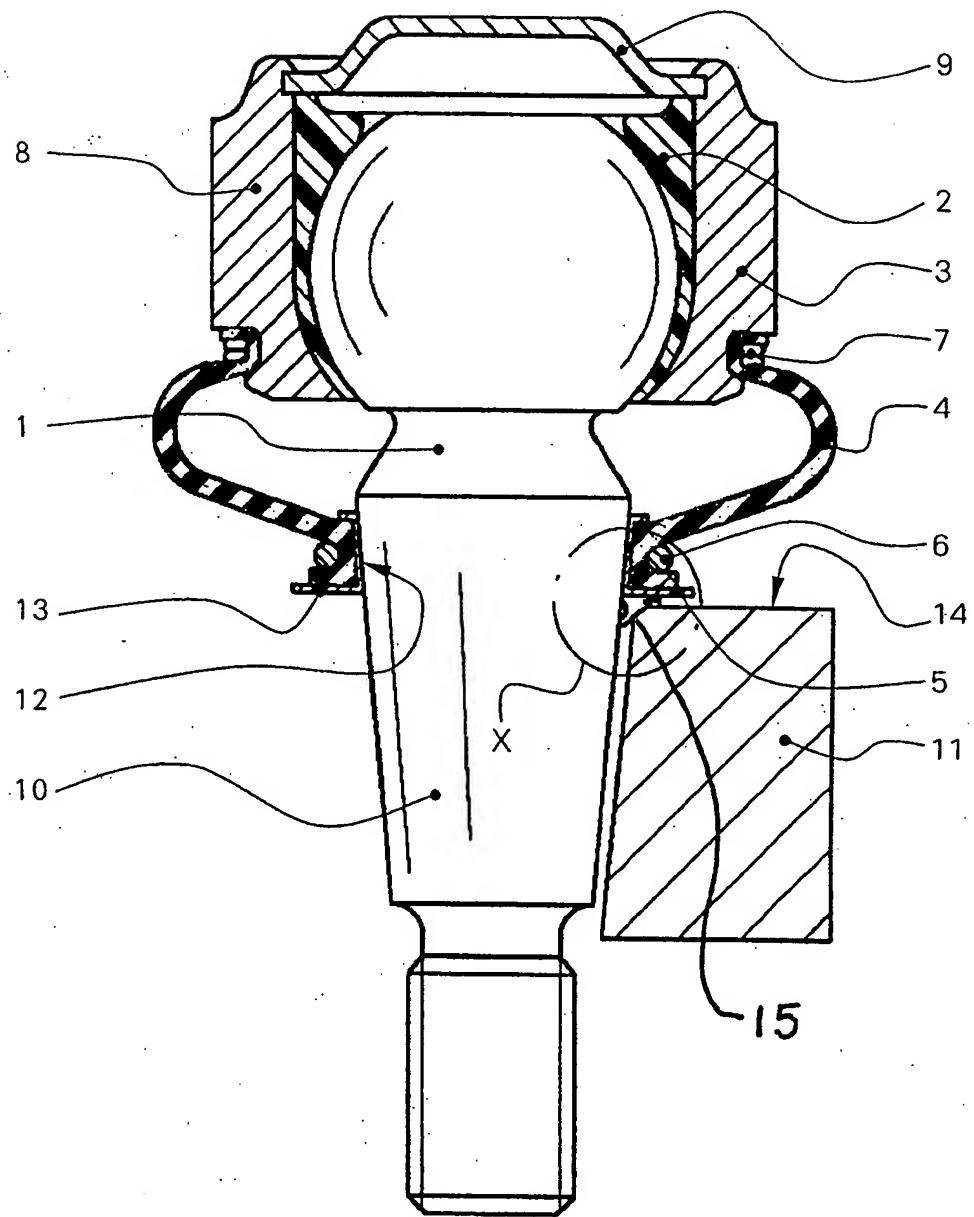


Fig. 1